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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/517,901 | 12/10/2004 | Frederick L. Jordan | HO-P03088US2 | 6893 |
| 23363 7590 12/04/2008 CHRISTIE, PARKER & HALE, LLP PO BOX 7068 PASADENA, CA 91109-7068 | | | | |
| EXAMINER | | | | |
| MCAVOY, ELLEN M | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 1797 | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/517,901

Applicant(s)

JORDAN, FREDERICK L

Examiner

Ellen M. McAvoy

Art Unit

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 8, 10, 12, 14, 16-23 and 31-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8, 10, 12, 14, 16-23 and 31-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 8, 10, 12, 14, 16-23 and 31-33 are still rejected under 35 U.S.C. 103(a) as being unpatentable over Jordan (5,826,369) in combination with Reid (4,981,495) or Reid (4,941,968).

Applicant's arguments filed 05 September 2008 have been fully considered but they are not persuasive. As previously set forth, Jordan discloses a fuel additive which acts to enhance the combustion characteristics of carbonaceous fuels which comprises beta-carotene, chlorophyll, jojoba oil and ethoxylated castor oil. Jordan teaches that the additive may be diluted with a suitable solvent including gasoline, diesel fuels, xylene, toluene, cyclic hydrocarbons and other liquids including most any organic solvent. Jordan teaches that cetane boosters such as alkyl nitrates which include 2-ethylhexyl nitrate and mixed octyl nitrate may be added to the fuel composition. See column 1, line 66 to column 3, line 21. Applicant's invention differs by adding 2,2,4-trimethyl-6-ethoxy-1,2-dihydroquinoline which acts as a stabilizing compound to the beta-carotene component in the fuel additive. However, as evidenced by the Reid references, the oxidative stability of hydrocarbon fuels including gasoline and diesel fuels is improved by adding an alkyl 1,2-dihydroquinoline compound. Reid discloses that suitable quinoline compounds include 6-ethoxy-2,2,4-trimethyl-1,2-dihydroquinoline. See formula IV in column 3 of Reid ('369) and in column 4 of Reid ('968). The Reid references teach that the alkyl 1,2-

dihydroquinoline compounds may be added to gasoline and other fuels in an amount of 1 to 10,000 parts based upon one million parts gasoline, which converts to 0.000001 to 0.01 %. See column 4, lines 7-25 of ('495). Having the prior art references before the inventor at the time the invention was made it would have been obvious to have added a known fuel stabilizing compound to the fuel composition of Jordan if its imparted properties were so desired.

In response applicant argues that there are thousands of known fuel additives which can be used in a virtually infinite number of combinations, and therefore, absent some suggestion to combine these two very specific compounds, such a combination would not be obvious. This is not deemed to be persuasive because when a claim defines a combination of elements known in the prior art, the combination must do more than yield a predictable result. *KSR Int'l. Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1740 (2007). In expressly rejecting an "obvious to try" argument in support of patentability, *KSR* states: "When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under §103." Thus the examiner is of the position that there is no evidence of record that the combination of additives in the claims yields more than a predictable result.

Applicant also argues that the combination of these two very specific compounds provides a synergism that yields surprising and unexpected results. Applicant points to the examples set forth in the specification on pages 36-40 and argues that the discussion therein provides evidence of unexpected results. This is not deemed to be persuasive because it is not

clear exactly where in the specification is the evidence for unexpected results due to the claimed combination of beta-carotene and 2,2,4-trimethyl-6-ethoxy-1,2-dihydroquinoline in a fuel composition (claim 1); and for the claimed combination of a first compound broadly selected from the group of carotenes, carotenoids, carotene derivatives, carotene precursors, carotenoid derivatives, carotenoid precursors, and mixtures thereof, and any known stabilizing compound that inhibits oxidation of the first compound (claim 2). As set forth in MPEP 716.02(d), whether the unexpected results are the result of unexpectedly improved results or a property not taught by the prior art, the objective evidence of nonobviousness must be commensurate in scope with the claims which the evidence is offered to support. In other words, the showing of unexpected results must be reviewed to see if the results occur over the entire claimed range. *In re Clemens*, 622 F.2d 1029, 1036, 206 USPQ 289, 296 (CCPA 1980). The examiner is of the position that applicant has not presented unexpected results due to the claimed combination of additives over the entire claimed range.

The objection of claims 31 and 33 under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim made in the previous office action is withdrawn in view of the amendments to the claims.

The rejection of claims 2, 12, 14 and 21 under 35 U.S.C. 103(a) as being unpatentable over Gambini et al (5,593,463) made in the previous office action is withdrawn in view of the amendments to the claims canceling the inclusion of "long chain olefinic compounds".

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen M. McAvoy whose telephone number is (571) 272-1451. The examiner can normally be reached on M-F (7:30-5:00) with alt. Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ellen M McAvoy/

Ellen M McAvoy
Primary Examiner
Art Unit 1797

EMcAvoy
December 2, 2008